

July

#### 501.03.16 Opening to Traffic

Do not permit traffic or Contractor equipment, excluding joint sawing and sealing equipment, on the concrete until one of the following test results indicate the concrete has developed sufficient strength.

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Deleted: a minimum 350 psi (2,415 kPa) modulus of rupture

- A. **Flex Beam Method.** Prepare the concrete flex beams in accordance with MT 101 and test for modulus of rupture using AASHTO T 97.

One test set consists of 3 beams. Take the concrete for the test beams from different concrete batches for each 2,500 square yards (2,100 m<sup>2</sup>) of concrete pavement and make at least 2 sets per day. Test the beam sets for modulus of rupture. Cure the test beams under the same environmental conditions as the pavement they represent. The pavement, represented by the beams, may be opened to traffic when the average modulus of rupture of the set exceeds 350 psi (2,415 kPa) and no individual beam's modulus of rupture is less than 300 psi (2,070 kPa).

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The Contractor may select the time for testing the beams. Test the flex beams on or near the project, using Contractor furnished equipment and with a Department Inspector witnessing the tests.

Include all costs to make, cure and test the flex beams in the contract unit price for PCCP.

Opening to traffic does not constitute a final acceptance of the pavement. The pavement is accepted upon confirmation of the 28-day flexural strength. Repair all concrete damaged prior to the final acceptance at Contractor expense.

- B. **Maturity Meter Method.** Prepare concrete flex beams or compressive test cylinders to validate the maturity meter performance curves. Furnish the Project Manager the maturity-strength relationship and maturity curves along with supporting data for verification. Maturity-strength relationship must indicate compressive strengths of 2500 psi or greater. Develop the maturity meter index curves before construction has commenced.

Determine the time for testing flex beams. Furnish suitable testing equipment.

The pavement may be opened to traffic and construction equipment, with Project Manager's approval, when the maturity meter readings reflect target values have been met.

Furnish all equipment, including maturity meter, thermocouples, wire, and a qualified technician to monitor the maturity meter system.

- C. **Concrete Test Cylinder Method.** Prepare concrete test cylinders according to MT 101 and MT 105, and test for compressive strength according to AASHTO T 22.

Make a minimum of one set of three compressive test cylinders, sampled from random locations, for each 2,500 square yards (square meters) of concrete pavement but not less than two sets per day. Test compressive test cylinders in sets of three for compressive strength. Cure test cylinders under the same conditions as the pavement they represent.

The pavement may be opened to traffic and construction equipment, with Project Manager's approval, when the average compressive strength of a set of test cylinders is 2500 psi (17,237 kPa) or greater with no single test less than 2,000 psi (13,790 kPa).

Determine the time for testing cylinders. Furnish suitable equipment and test compressive cylinders on or near the project.